

converting waste to use, and improving the aesthetic value of man's surroundings." ²

Having set this general goal the Task Force urges that this primary goal be related to a policy commitment toward the elimination of environmental contamination and that in addition program goals must be set for the reduction of specific contaminants. I believe that it is reasonable to suggest that this same set of goals can and should be acceptable to the governments, local, state, and Federal in the Washington metropolitan area and that there is no valid reason why these same governments cannot make the necessary policy commitment.

Setting Regional Goals

The kind of environmental protection system recommended by Secretary Gardner's Task Force has as its immediate objectives the establishment of criteria and standards for elements discharged into the air, water, and soil, and the creation of a surveillance system, nationwide for all pollutants in air, water, and soil.

The Task Force contains this admonition: "And compliance must be based on more than abatement action. There must be an inducement so strong for State and local governments to do comprehensive planning on an appropriate geographic scale and to conform with national goals and objectives that it is politically and economically unpalatable for them to do otherwise." ³

The Task Force Report goes on to say "Participation on the part of local government in any regional environmental program should be as great as possible, but it must be recognized that environmental protection problems will have to be solved on the metropolitan or regional scale.

"We must engage in experimentation and research in order to increase our capacity to make decisions at the metropolitan or regional level." ⁴

An Interstate Compact Agency Required

For the Washington metropolitan area it seems obvious that some kind of new institutional arrangement will have to be created to carry out an effective environmental protection program. It seems inevitable at this point that to mount the kind of environmental protection system needed to most adequately meet the problems of this area, an interstate compact agency will have to be created. The creation of such an agency will involve agreement on behalf of the states of Maryland and Virginia, the Congress and should be fully supported by the Executive Branch. Also it must be

so structured so as to be genuinely responsive to the local governments in the area. As a matter of fact, I would urge that the Compact Agency be a component part of the Washington cog, which has already created an intergovernmental decision-making process.

The National Research Council of the National Academy of Sciences in its report *Waste Management and Control* stated that "Public policies and institutional arrangements, and the extent to which they are supported will largely determine the effectiveness with which the challenge of pollution is met." ⁵

"Law and public policy establish the environment that will determine the response of private activities and individual public agencies to the problems of pollution. Because of the strategic role of governmental agencies at all levels in establishing this environment, or climate, their organization, staffing, financial support, and authority are critical to a successful attack on the problems of pollution." ⁶

Neither the individual governments in the D.C. metropolitan area nor in any other metropolitan area are adequately equipped to deal with the problem on the scale required. The scale makes it impossible to solve on an individual basis, and jurisdictional problems effectively preclude any real hope for effective confederation. If the local governments in the area are to act responsibly, they must assume the obligation of supporting the creation of a new institutional arrangement or governmental entity which can meet the problem on the scale required to adequately protect and enhance the physical environment of the metropolitan area. And at the same time they must be sure that such an arrangement is not special purpose, but part of a general decision-making process for the region — one that deals with highways, outdoor recreation, health and all the other things that create an environment of excellence on the intergovernmental regional scale.

Area Wide Planning for an Environmental Protection System

The creation of a compact agency will take, however, at least from two to four years to accomplish. Much will depend on the zeal with which the local governments take on the job. But in any event, planning for the creation of the compact agency itself should begin now and should be undertaken as a specific goal of the Washington Metropolitan Council of Governments.

The principal task of the compact agency committee would be to secure agreement amongst member governments as to: (1) the compact agency's

specific responsibilities; (2) the kinds of powers, police, taxes, eminent domain, etc., to be placed at its disposal; (3) how it is to be organized, staffed and funded; (4) the kinds of standards it should impose and over what period of time; (5) how it should enforce such standards and secure compliance; (6) its relationships to the states and federal governments and most importantly — its relationship to the local governments within the metropolitan area.

But while the COG compact agency committee is pursuing its responsibilities COG itself should be working with the governments of the region in developing agreement on interim goals and an action program to meet those goals in the most constructive and effective way until the compact agency is a fact and is working.

This work, it would seem to me, would fall into two categories:

First, trying to meet the short term problems of eliminating the most obnoxious hazards to the metropolitan environment:

Shooting for a target of closing down all the open burning in the metropolitan area and particularly the Kenilworth Dump within the next six months.

Begin preparing for completion in 1969 a comprehensive environmental health program plan for the metropolitan area.

Begin to develop abatement plans to reduce plant stack emissions by 90 percent by 1970. In other words implement the recommendations made by COG in its model Air Pollution Ordinance.

Second, providing the basic information regarding the range and intensity of existing and potential hazards to the environment for purposes of further refining the area's short-term goals and to be used by the compact agency once it is created as a basis for its compliance and enforcement program.

Work undertaken in this regard would consist of the following: (1) a metropolitan wide monitoring system for air and water pollution; this would require an expansion of COG existing 11 stations air pollution monitoring network; (2) the development of a source inventory for solid, gaseous and liquid waste for the entire metropolitan area; (3) area wide solid waste disposal site survey; (4) analysis of the nature of the total solid waste loads along with the development of methods of analysis for alternative mixes of treatment. For example, how much waste should be burned, how much should be ground up, and discharged through the sewer system, how much should be buried, how much should be subject to salvage; (5) examination

of existing private and public collection methods, etc.; (6) an intense and in depth examination of the total existing and projected impact of current prevalent environmental hazards on the ecologue of the metropolitan area; (7) undertaking a comprehensive analysis of the projected cost involved in the development of an effective environmental protection system and the examination of possible sources of revenue to support the protection program including recommendations as to the appropriate role in terms of financing to be played by the state and Federal governments.

Summary

The development of an effective environmental protection system will require a comprehensive approach involving all aspects of waste generation and taking into account the full range of environmental hazards within the framework of broad and responsible political decision making.

- It will have to operate on a regional scale
- It will require the full commitment and support on the part of all the governments in the area
- The work on the creation of an appropriate compact agency should begin now under the auspices of the Washington Metropolitan Council of Governments
- At the same time the governments of the metropolitan area should be working through WASH COG to develop short-term abatement goals — and programs to achieve those goals during interim between now and the creation of the compact agency
- Finally, every effort should be made on the part of the individual governments within the metropolitan area acting individually and in concert to secure and utilize all available resources and powers through the States and the Federal government to assist them in a truly cooperative effort to restore the Metropolitan area's physical environment.

¹ The Task Force on Environmental Health and Related Problems. *A strategy for a livable environment; a report to the Secretary of Health, Education, and Welfare*. Washington, D.C., U.S. Government Printing Office, 1967. p. 1.

² *Ibid.* p. xv.

³ *Ibid.* p. xii.

⁴ *Ibid.* p. xiii.

⁵ National Academy of Sciences — National Research Council, Committee on Pollution. *Waste management and control; A report to the Federal Council for Science and Technology*. Publication No. 1400. Washington, D.C., National Academy of Sciences — National Research Council, 1966. p. 222.

⁶ *Ibid.* p. 222.

ASSISTANCE AVAILABLE UNDER THE SOLID WASTE DISPOSAL ACT

*Richard D. Vaughan **

MAN HAS BEEN POLLUTING his environment for centuries. But recently in this country, as in other parts of the world, a rapidly growing population, increasingly concentrated in urban areas, has made pollution a critical problem. The metropolitan area of Washington, the point of focus for this conference, provides a concrete example of a highly concentrated urban area with increasingly severe pollution problems.

Until the last few years, pollution to most people meant unclean air and water. Few were concerned about contamination from solid wastes as long as their garbage and trash were routinely removed from their premises, and the disposal site was beyond the senses of sight and smell. Yet, in communities throughout the country, the burning of wastes in the open or in antiquated equipment is a major cause of air pollution. Moreover, open dumps often seriously pollute surface and ground waters.

Only today are we beginning to realize that our three waste repositories contain all we shall ever have of the basic life resources of land, air, and water and that these repositories are interconnected so that to pollute one may be to pollute all three.

In economic terms, as a nation we are now paying about \$3 billion a year for solid waste handling systems which are less than adequate in many cases. The expenditure of local funds for solid waste is exceeded only by expenditures for schools and roads.

Although there is a great and pressing need for research and development in the technology of solid waste management, it must be emphasized that knowledge is now available for the development of safe and efficient solid waste handling systems. No community need wait for research results be-

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fore *improving* waste management. Most municipalities, unfortunately, have lacked money to spend on available sanitary collection and disposal equipment and facilities, much less to risk on disposal methods not yet wholly tried. Furthermore, many communities now undertaking to dispose of solid wastes, are too small to afford to do much more than dump wastes in the open or burn them in the open or in primitive equipment.

The Solid Waste Disposal Act

There are reasons for optimism for the long-term outlook for effective solid waste management. One of the most important reasons is that, for the first time, we have a Federal commitment to support and assist in a coordinated national effort to solve solid waste problems. This commitment is embodied in Title II of Public Law 89-272, The Solid Waste Disposal Act. On October 20, 1965, the President signed the Act into Law.

The Act directs the Secretary of the Interior to aid in solving solid waste problems resulting from extracting, processing or using minerals or fossil fuels. All other responsibilities under the Act are assigned to the Secretary of Health, Education, and Welfare. On December 3, 1965, the Surgeon General of the Public Health Service established an organizational entity which is now designated as the Solid Wastes Program of the National Center for Urban and Industrial Health to carry out the HEW provisions of the Act, which are: ". . . (1) to initiate and accelerate a national research and development program for new and improved methods of proper and economic solid waste disposal, including studies directed toward the conservation of natural resources by reducing the amount of waste and unsalvageable materials and by recovery and utilization of potential resources in solid wastes; and (2) to provide technical and financial assistance to State and local governments and interstate agencies in the planning, development, and conduct of solid wastes disposal programs."

The Act authorizes specific action in six areas of need: (1) grant support for local and State projects to demonstrate new and improved waste disposal technology; (2) grant support for the development of area-wide solid waste management systems to end fragmentation of responsibilities among small communities; (3) grant support for State surveys of solid waste handling needs and the development of Statewide plans for meeting needs; (4) research, both direct and grant-supported, to establish the basis for new approaches to solid waste handling; (5) training programs, both direct and grant-supported, to alleviate critical shortages of trained personnel; (6) technical assistance to local and State governments with solid waste problems.

Clearly, the Act casts the Federal government in the role of supporting partner with local and State agencies in solving solid waste problems. Primary responsibility for solid waste handling and for carrying out programs for improved practices remains at the local and State levels.

Assistance Provided by the Solid Wastes Program

During the 19 months of existence of the Solid Wastes Program of the Public Health Service, and in the context of the purposes and specific actions authorized by the Solid Waste Disposal Act, much progress has been made, but much more remains to be accomplished.

The Solid Wastes Program, operating with a budget of about \$12 million during F.Y. 1967, has emphasized fundamental approaches to the solution of solid waste problems. This is exemplified by the many communities which are attacking the basis of their disposal problems in projects, aided by Federal grants, to replace uneconomic and insanitary small community operations with area or regional waste management systems. Such systems will make it possible for communities cooperatively to avail themselves of the health-safeguarding technology and economies inherent in large-scale disposal operations. The projects would merge operations now being conducted individually by many — in one case, more than 50 — communities.

Demonstration Projects

Projects receiving grants to demonstrate new and improved disposal technology also are oriented toward basic solutions of the solid waste problem, such as demonstrating constructive uses for wastes. The use of wastes in reclaiming worthless land, for example, is to be demonstrated in a number of projects. One of these will show that wastes can be compacted to as little as one-tenth their original volume as they are being deposited in a sanitary landfill. Another project is to demonstrate long-distance rail transportation of wastes to abandoned strip mines and other land needing reclamation. Economic recovery of incineration heat to desalinate or purify water or generate power is to be established by several projects. To date approximately \$7 million in grant funds have been or are in the process of being awarded for the support of 50 demonstration and study and investigation projects which are active across the nation.

In the Metropolitan Washington area a study and investigation project has been recently completed covering special studies leading to the design of Incinerator No. 5 for the District of Columbia. The total project cost was \$94,000 of which \$62,000 in grant funds were awarded by the Solid

Wastes Program. Presently, a study and investigation project covering the design of Incinerator No. 5 of the District of Columbia is active. This project will have a total cost of \$390,000 of which \$260,000 will be provided by a Solid Wastes Program grant.

Demonstration grants are awarded primarily to test the economic and technical feasibility of proposed methods. Study and investigation grants are awarded for the study of solid waste handling problems and practices. Work under this second category of grants leads to the demonstration of improved waste handling practices or may provide solutions for regional solid waste management problems. Up to two-thirds of the total cost of projects may be financed by Federal funds.

Recent administrative action resulted in the removal of a limitation on the amount of demonstration project funds that could be awarded to any one State. There is now no restriction, other than the budget of course, of funds to any one State for demonstration and study and investigation projects.

State Survey and Planning Projects

States across the country are surveying their solid waste needs and developing disposal programs with 50 percent of the costs provided by Solid Wastes Program grants. In many instances, this work has never been done before on a Statewide basis. Regional and even interstate systems are expected to be developed through this activity.

Planning grants are awarded to State and interstate agencies which have been designated or established as the sole agencies responsible for such State or interstate planning. The more important objectives of this type of grant include the enactment and strengthening of legislation, a data collection system to pinpoint solid waste problems and devise means of dealing with them, and the setting and enforcement of standards for the design and operation of solid waste management facilities and equipment. To date approximately \$1.5 million in grant funds have been awarded for the support of 32 State survey and planning projects. The State health agencies in Maryland and Virginia both have active survey and planning projects. Recent administrative action also resulted in the removal of a limitation on the amount of survey and planning project funds that could be awarded to any one State.

Research Projects

Research projects supported by Solid Wastes Program grants are aimed at such basic solutions as the reduction of wastes at the source or their con-

version into marketable products. One project, for example, seeks knowledge which would lead to the reduction of food wastes through the development of spoilage-resistant fruits and vegetables. Another is studying the conversion of wastes from citrus fruit processing into citric acid. The transformation of cottage cheese and tomato wastes into human and animal foods is the objective of another project. Several researchers seek to convert wastes into marketable carbon and chemicals. A number of new routes to incinerator heat recovery are being explored. One project is studying gassification of wastes to produce fuel for power generation. Over \$2 million has been committed for grant-supported research in the 19 months since the Solid Wastes Program was established. Thirty-nine research projects are now active under grants awarded by the Program.

The Solid Wastes Program is developing a research capability of its own in facilities at Cincinnati. Arrangements have been completed for the construction in Cincinnati of the first field laboratory for general research on solid waste pollution abatement.

Training

The Solid Wastes Program sponsors or conducts training for all types of solid waste personnel. Shortages of technical personnel are being alleviated through grants to institutions of higher education to train graduate students in engineering and science. Operating and administrative personnel are being trained in courses conducted by the Program.

Training grants are awarded to institutions of higher education to establish and/or expand graduate training programs in solid waste technology and management. I might point out that very few graduate school candidates in the environmental health disciplines in the past have elected to do graduate work in the solid waste field because of the tendency of the engineering profession as well as public officials to give solid waste programs low priorities. It is believed that, through financial help to universities for enlarging solid waste educational programs and by assisting graduate students, the critical need for qualified personnel will be eased.

To date nearly \$0.5 million have been awarded for solid waste training to the following institutions of higher education: Drexel Institute of Technology; University of Florida; Georgia Institute of Technology; University of Kansas; University of Michigan; Rensselaer Polytechnic Institute; University of Texas; and the University of West Virginia.

Technical Assistance

Engineers and scientists of the Solid Wastes Program are developing

technical assistance capabilities as provided for by the Act for both public and private agencies. Members of the staff work on such tasks as the development of disposal performance criteria. These will form a basis for establishing performance standards and will be helpful to industry in designing equipment and techniques for meeting such standards.

An example of the technical assistance available is the study of the four District of Columbia incinerators which was made during the week of April 2, 1967, at the request of Senator Tydings of Maryland. A full report of the study was transmitted to Senator Tydings in June.

The Future

Not only is refuse increasing in volume, its characteristics are also changing rapidly. And the problems will unquestionably become more severe. The 165 million tons of solid waste polluting the air and discarded and spread over the nation's landscape in 1966 will increase to 260 million tons in a decade. Wastes which heretofore have been of a degradable organic nature have become mainly nondegradable inorganic material.

The Task Force on Environmental Health and Related Problems in their recently published report to the Secretary of Health, Education, and Welfare entitled *A Strategy for a Livable Environment* clearly identified future needs in waste disposal as follows: "Basic research into the health effects of waste and waste disposal techniques; the study of wastes as an element of disruption in the ecology of natural systems; a stepped-up research effort to secure breakthroughs in the re-use and disposal of solid, liquid, and gaseous wastes; a greater public awareness of its role and responsibility in curbing waste; a grant-in-aid program to assist State and local governments and private industry in establishing and maintaining adequate waste disposal systems; achievement of reduced levels of waste through improved packaging methods."¹

Of a more specific nature are two identical bills which were introduced in the Senate on April 27 by Senator Muskie of Maine (s. 1646) and in the House of Representatives on April 28 by Representative Ryan of New York (H.R. 9477). The proposed legislation would amend the Solid Waste Disposal Act to provide for the construction of solid waste disposal facilities and for other purposes. Hearings have not been scheduled for either of the bills.

¹The Task Force on Environmental Health and Related Problems. *A strategy for a livable environment; a report to the Secretary of Health, Education, and Welfare*. Washington, D.C., U.S. Government Printing Office, 1967. p. 16.

Conclusion

Imagination and innovation are being manifested in action to solve the solid waste problem. It is clear, however, that the problem is of such increasing magnitude as to demand long-term application of the utmost in imaginative thinking and willingness to venture away from conventional approaches and develop new and improved methods for solid waste handling. The problems we are facing are more than those of technology and economics. They involve the American attitude toward wastes, which is one that generates a vast public disinterest in the proper management of wastes. As Dr. Stewart mentioned earlier the citizenry appears to be interested in solving their solid waste problem but only if the disposal site is located in someone else's backyard far, far away. This attitude is understandable if one correlates it with the opinion of Mr. John Q. Public of what solid waste management is or should be. In far too many cases the term solid waste disposal in the mind of the average citizen is associated with burning and smelly dumps or antiquated incinerators belching forth black and odorous smoke in gigantic quantities. Both images are not only insults to man's environment but are unnecessary. Solid waste disposal should be associated in the public's mind with immaculate operation, with the reclamation of land and other resources, with the development of parks and recreational areas, and with the beautification and improvement of the community. People must realize that proper solid waste management can result in an asset for their municipality not a liability. The complex technology of today's complex world has created solid waste problems which must be met straightforwardly and effectively by the professionals in this field with the full support of an enlightened and positive thinking citizenry. On the other hand to be content with the status quo — or to put it another way to be satisfied with yesterday's solution to today's and tomorrow's problems will most certainly lead to disaster for the community and the nation.

Much unfavorable publicity during recent months has resulted from the operation of the disposal site in the Washington metropolitan area known as the Kenilworth Dump. Such notoriety has certainly not been of value in associating in the minds of the populace what proper solid waste management should be. The Solid Wastes Program would welcome a proposal in the form of a demonstration grant application which would result in the replacement of the present Kenilworth Dump with a model sanitary landfill operation and land reclamation project resulting in the development of an architecturally pleasing recreation site as well as the immediate cessation of burning. This, I believe, would demonstrate to a large segment of

the population, the transformation of a civic shame into something of which the entire metropolitan area can be proud.

If any area-wide approach to solid waste management and utilization of these wastes is to be successful, public attitudes must be improved. This conference is one large step in that direction. I hope that this conference will focus regional attention on solid waste management and the Metropolitan Washington area and tools available for solving the problems.

The Solid Wastes Program would welcome a proposal for the design and demonstration of a modern, efficient and safe solid waste management system for the Metropolitan Washington area. A proposal could be submitted by a body representative of the area, such as the Metropolitan Washington Council of Governments. Such a project would be eligible for up to two-thirds grant support as authorized by the Solid Waste Disposal Act.

The Public Health Service believes that through the Federal government's partnership with industry, State and local agencies, the challenge of solving one of the nation's more vexing environmental health problems — pollution-free disposal and utilization of solid wastes — will be achieved.

OPEN DISCUSSION: PANEL C

Walter A. Scheiber, Panel Chairman*

MR. J. H. McCALL†: Mr. Reid, please define the data developed by your consulting engineers for the financing of your regional plan in the Detroit area.

MR. REID: The firm we employed was Consoer, Townsend and Associates. Let me just read from my report. I brought this along to fortify myself since I'm not an engineer. I have instructions to say this is out of print. It was put out in 1964 and we've had almost as big a demand for it from outside the Detroit region as we've had in the region. If you're from around this area, I know there are three or four copies in various counties, regional and city offices around here, that you might refer to. In this report, we have tables of various types of financial data gathered. In order to arrive at costs, it was necessary to set up schedules of collection truck arrivals, number and size of unloading hoppers needed, size of transfer buildings, size of scale house, amount of railroad siding, number of loading ramps, amount of paved areas, number of lights in area, acreage required for loading stations and so forth. In the several tables we made for our two alternative plans, we cover such finance costs as transfer buildings, scale house and scales, railroad loading, vehicle storage, maintenance garage, paving, truck fueling items, exterior lighting, land acquisition, compactor trailers, fodder trailers, road tractors, service trucks, and so on. These specifications were also developed for the major sites recommended as regional disposal sites, and for the trucks and equipment needed to carry on those operations.

MR. McCALL: Mr. Reid, that is not the answer we were looking for. We're interested in the financing of the two alternative plans. Not in the basic cost saving and development thereof, but we're interested in how your engineers were recommending that these plans be financed.

MR. REID: Since we do not have an operating agency in the region that can implement this plan, it goes back to the counties through our supervisors intercounty committee for their first consideration. We just don't have any basis for saying any more than we ought to have a metropolitan service agency to carry on this operation and develop the cost. In

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† James H. McCall, Goodbody and Company, Chicago, Illinois.

general the operating cost would be paid by the cost per ton of refuse delivered at the various points or at the disposal sites by the companies involved. The initial cost I presume would have to be raised either by a bonding or by a capital financing program. That's the best answer I can give to it. We are pushing for the creation of an agency capable of doing this.

MR. S. PROFILET*: Do you anticipate that the Program of Solid Wastes will generate any public information material aimed at increasing public acceptance of solid waste disposal practices as the practices ideally should be pursued?

MR. VAUGHAN: Yes. This will be accomplished through several mechanisms, — through publicity connected with the demonstration grants and through straight public information which is aimed toward the housewife or the fellow next door. Wide distribution will be made of this material, through the Center office of public information, National Center of Urban and Industrial Health.

MR. W. SULLIVAN†: Are there any direct aids to industry under the Solid Waste Disposal Act to perform research and development on solid waste treatment?

MR. VAUGHAN: There are no direct aids as far as the grants are concerned. However, we do work a great deal with industry through the contract mechanism.

MR. SULLIVAN: How about money being used as state government aid then given to industry for work for the state government as a grant?

MR. VAUGHAN: The money that is given to the state government for state planning grants, the state could in turn use a portion of (these funds) for consultant purposes.

MR. HENRY EPPES‡: Does the Metropolitan Toronto area include any unincorporated area?

MR. ROSS L. CLARK: The answer is *no*. Metropolitan Toronto as we said comprises six municipalities, one core city and five boroughs. It also has surrounding it, and included in the Metropolitan Planning area, five townships. Each of these townships is quite extensive in size, but under the provincial statutes each is incorporated.

* Stephen B. Profilet, Washington Suburban Sanitary Commission, Hyattsville, Maryland.

† William E. Sullivan, Electronic Associates, Inc., Rockville, Maryland.

‡ M. Henry Eppes, Maryland Technical Advisory Service, University of Maryland.

Going back to the question of Mr. Reid. We finance operation of our refuse disposal system now, simply by presenting a budget for the year at the Metro-Council level. This year, it will be \$4 million. Capital cost payments are also added to the metro-levy. This total levy is then prorated against each member municipality in relation to its assessment over the whole assessment of the metro area.

MR. E. F. MENKE*: The question is 'In the greater Metropolitan Area, would it require a new agency for solid waste disposal or would the existing structure of the Metropolitan Washington government suffice?'

MR. SCHEIBER: The Council of Governments is a voluntary association assisting major local governments in the Metropolitan Area including the District and 14 suburban governments. It does not have the kind of legal standing in our opinion which would suffice to make it adequate for the kind of solid waste disposal programs which we've discussed during this two-day conference. Mr. Miels suggested this morning that in all likelihood it would be necessary to negotiate and enact an interstate compact. This would create an organization with legal power, such as the power to condemn land, the power to borrow money by bond issue and other similar powers which are generally thought to be necessary in order to develop a viable solid waste disposal program. COG at the present time does not have such powers and we do not envisage that we will receive them in a general way in the foreseeable future. Therefore, I think those of us on the COG staff generally would subscribe to the suggestions made by Mr. Miels during the previous statement.

MR. O. SUTERMEISTER†: I have two short questions. The first is about Mr. Clark's comment on the new section of the Public Health Act governing landfill site use.

MR. CLARK: Perhaps, when I was quoting the Public Health Act in talking about the finished site, I didn't finish my statement. There shall be no utilization of a finished landfill site for a period of 25 years unless a specific proposal is put forward and is accepted by the Provincial Department of Health. For instance, we don't like to see any buildings or structures put on top of a finished landfill site. But a new approach to development is to put buildings on piles to keep two or three floors clear and open for parking with no basement boiler rooms. Boiler rooms, of course, are

* Eric F. Menke, Washington Citizens for Clear Air, Washington, D.C.

† Oscar Sutermeister, U.S. Public Health Service, Washington, D.C.

starting to appear on the top part of some of our buildings rather than the basement.

MR. SUTERMEISTER: Where does the authority to approve the future use lie?

MR. CLARK: With the province of Ontario under the new Public Health Act.

MR. SUTERMEISTER: Not with the metro area?

MR. CLARK: We must conform with provincial requirements.

COMMENT: This is not a direct question, but I'm afraid that some of those who are here might be under the impression that there are no properly operated sanitary landfills in the Metropolitan Washington area. There is one old sanitary landfill in Fairfax County, in the Bailey's Crossroads area, which is now the center of a very concentrated commercial area. We did have some problems with construction here (methane). We had to do some mucking out, which was not the most pleasant thing in the world. It was concentrated under one large high-rise type building. We have another sanitary landfill, which was closed down about three years ago. It's in the grand process of being converted into a recreational area. We have a police rifle range and training center there. We have a currently operated sanitary landfill. It is not without problems and we do have the usual citizen opposition that everyone has mentioned in the location of landfills.

MR. SUTERMEISTER: Mr. Clark showed slides of a watercourse in a completed landfill. The watercourse seemed to me as a mere channel of concrete. A landscape architect in designing the plan for recreational usage might have some objections to this type of structure. Is there any alternative to such structures?

MR. CLARK: Actually, if you noticed on the left side of that slide there was rubble stonework laid in concrete. That was all done in ground aesthetic color to blend in with the park approach of using natural wood and things like this. In the other part it was like concrete and eventually it will be lined on top in brown stone to blend in much more naturally. There are twenty-two feet of refuse underneath that area. We did have to carry the watercourse through in concrete because this is part of our water pollution control program. We don't want the old watercourse seeping down through the refuse and then leaching through underneath into the adjacent river.

LUNCHEON ADDRESS

*William B. Spong, Jr.**

I AM VERY PLEASED to be here with you. I assure you that as slowly as I speak, I won't speak very long; I will speak rather informally to you. I will talk a little about air pollution, which of course is related to solid wastes disposal.

I commend this subject as a dinner conversation piece for you. When I was first married, my wife used to take me off to dinner parties and I would find myself seated with nice ladies with whom I couldn't possibly find anything to talk about. When I returned home, I would say, "Well, Virginia, I did the best I could; I just couldn't seem to strike up any conversation that we had a mutual interest in." She said, "Well, I'll tell you; I learned a long time ago that the one thing you can talk about is termites — everybody has had some experience with termites; it's amazing — you can just sit there and the evening will be cool and you just say something about termites and you will just be amazed — everybody knows something about termites." And so I tried this for 15 or 16 years. Since I have been in the Senate of the United States, which is now just under seven months, I have found that air pollution works almost as well as termites — everyone has some opinion about it, the cause of it, the cure of it; everyone has had some experience with it, and therefore I commend to you on any evening when the conversation is pretty dull as far as you are concerned, just (you don't have to talk about the Kenilworth Dump) — just talk about air pollution, and you will be amazed to see what opinions and reactions that it brings forth.

The day before yesterday, the Senate, by a vote of 88 to 0, passed the Air Quality Act of 1967. The bill as passed was far different from the bill initially introduced and recommended by the Administration. I think that Senator Muskie, who was the chief patron of the bill, and the chairman of the subcommittee, should be commended for getting the bill through the Senate in the manner that he did. What the House will do with the bill remains to be seen.

I thought that for 10 or 12 minutes, I would review informally the principle thrust of the Bill in its present form. This will allow you to become

* United States Senator from Virginia.

acquainted with what the Congress — or at least the Senate — is trying to do insofar as Federal participation in attacking the problem of air pollution is concerned. I think one of the foremost provisions is money for research. We know, of course, that the burning of low-grade fuel is one of the chief causes of the pollutants in the air that have been adjudged most harmful to individuals. And we know that a great deal of meaningful research is already being done. We visited Riverside at the University of California, and saw what they are doing in terms of the effects of air pollution on plant life and the effects on animal life. We know that a great deal can be done insofar as low-grade fuel burning is concerned. Much is being done in many other parts of the world that should be helpful to us in attacking this cause of air pollution. I will talk now about what the Bill provides insofar as motor vehicles are concerned. Many States do not have mandatory inspection of automobiles; they have spot checks in California to determine if the anti-pollution equipment, which must be installed in every automobile beginning next year, is continuing to function properly; they can spot check it. They can stop the car and check to see if the equipment is in the car, and if it is connected. They cannot determine (unless they test the vehicle) whether the equipment actually is functioning properly and whether that equipment and the other equipment in the automobile is being properly maintained. I would hope that the research funds will produce not only economic hardware which can be installed in every automobile, but also testing equipment which will make it easier and cheaper to follow up a spot check or used as part of a mandatory inspection.

The greatest problem in our deliberations on the Air Quality Act of 1967 was determining how standards would be determined. We in the United States are free and independent and we don't want somebody from Washington, regardless of how attractive and personable he may be, sniffing at every smokestack in the United States to find out what's going on. It was decided that the best thing to do was to allow the states to determine the minimum standards that they wanted enacted in this field.

The principle thing that this bill provides insofar as the role of the Federal government is concerned is the research that HEW can do to inform people throughout the United States about the problems, dangers and types of air pollution, and about the regions in the United States where the greatest problems exist. Then, within a period of a year to fifteen months, the individual States can enact minimum standards of their own.

The only field that the Federal government has pre-empted for the setting of emission standards is the area of motor vehicle pollution. The one excep-

tion to this is the State of California, which has had its own standards for two years. But each State will have a reasonable period of time in which to enact minimum standards. I am hopeful that each and every one — the States of Maryland and Virginia have both moved forward in this direction already — will adopt their own standards and come in under this Act.

Insofar as automobiles are concerned, it's impractical not to have national standards. If we allowed each individual State to set its own emission standards for motor vehicles, then the manufacturers of motor vehicles would have to manufacture different hardware for the different localities in which their automobiles are operated. The cost of this would certainly be passed on to the automobile purchaser, and I think it is completely unrealistic not to approach the problem of motor vehicle air pollution from the basis of national standards.

In this particular area, regardless of the Kenilworth Dump, the motor vehicle remains the greatest problem. Here in Washington we have the heaviest concentration of automobiles I believe of any metropolitan area in the United States. In Los Angeles, where they pride themselves about the number of automobiles they have, they were very surprised when we advised them that there are more automobiles per capita here in the Washington Metropolitan area than in Los Angeles County or in the immediate Los Angeles area.

Now, the Secretary of HEW will set forth regional airsheds. He will designate the regions where air pollution is a problem, and certainly Metropolitan Washington is a region that will be designated. There will be hearings on Senator Tydings' bill this afternoon. It seeks to set up a control board for the District of Columbia, Maryland, and Virginia. All three of these political subdivisions will be in a position to work together within a designated region to attack this problem.

The first stage, an inventory of the potential causes of air pollution, has already been underway in the District of Columbia for some time. In Los Angeles County they say that the only problem that they have in air pollution is the result of the motor vehicle. They say they have inventoried, identified, cataloged and done everything necessary to control 90 to 95 percent of the air pollution from stationary sources in the Los Angeles area. They have secured convictions in 90 percent of the cases initiated and they say that stationary sources of air pollution, unlike most metropolitan areas, are the least of their worries and problems. The four main things that the Air Quality Act of 1967 seeks to do is: (1) to provide research immediately

in this area; (2) to encourage the States and the localities within the States to adopt standards that will enable that particular region or that State to combat air pollution in its own way, but which will meet minimum requirements; (3) to encourage States, through grants, to provide for inspection of automobiles to determine that the equipment installed in the automobile and required under previous legislation is operating to combat air pollution; and (4) to set up regional airsheds. If there is an emergency, such as happened at Donora, Pennsylvania, or last Thanksgiving in New York City, and a locality and a State have not set up sufficient legislation and administration to meet that problem, then the Federal government can move in immediately.

I think there should be some exploration in the field of tax incentives to encourage industries to install equipment to combat the problem, and I think that Congress will be considering this in the near future.

The thing that has impressed me about the Bill the Senate passed unanimously day before yesterday is that it follows in many respects the pattern set in the Clean Water Act. It enables the States and the localities to take the initiative without pre-empting very much from them. It provides scientific and technical data to the localities and to the States.

Now, we have, both in the House and in the Senate, a Solid Wastes Disposal Bill which I predict ultimately will follow this same pattern. The pattern recognizes the necessity for local and State initiative, for local, State and Federal cooperation, and for regional planning.

We are mindful that America is becoming rapidly urbanized. I live in the southernmost part of one great urban complex, which extends from north of Boston down into Virginia. I live in Hampton Roads, the southernmost portion of that complex. And whether we are talking about solid wastes disposal, mass transit, air pollution, or planning or zoning or noise abatement, we are coming to realize that an entire new concept of the environment of the individual of tomorrow is going to take place. It will require the utmost cooperation between the various experts in these fields, because they all relate to each other whether they be engineers or architects or planners, or health officers. They must see a total concept in which we begin to understand and deal with all of these things at one time. We have also come to realize that man is not on an island. The District of Columbia can't proceed with solid wastes disposal plans or with air pollution plans unless those in the neighboring communities in Maryland and in Virginia are planning and working with them on this problem.

I think the most meaningful thing about the legislation I have discussed is that it sets a pattern which is consistent with the American concept and yet recognizes the role that the Federal government must play. It demands initiative by the States if the problems are to be met, and it encourages regional planning and regional cooperation. As a Virginia Senator I have had a great deal of fun in the last four or five months advising my constituents in Richmond that whether they know it or not they are polluting the District of Columbia; they don't always take that too kindly, but it's true — depending on the prevailing winds, we are either doing damage to Baltimore or Richmond or they are doing damage to us here in the District of Columbia.

I commend you upon this conference; I believe Senator Tydings' legislation for the District in this area will pass. I know that the Solid Wastes Disposal Bills are going to have full hearings. But the success of any of these undertakings in the world in which we live today demands the cooperation and the planning of many people in many different walks of life and of many, many political subdivisions.

SUMMARY OF PANEL A PRESENT PRACTICES AND NEEDS IN THE METROPOLITAN AREA

Achilles M. Tuchtan, Panel Chairman

MR. SVORE, LADIES, AND GENTLEMEN: Yesterday afternoon in the Panel on Present Practices and Needs in the Metropolitan Area we had the opportunity to hear six well-qualified speakers, who have had broad experience with the problem, discuss individual aspects of the solid waste problem in the metropolitan area.

Mr. Bremser, whose firm has studied the problem for the Northern Virginia Regional Planning Commission, the Maryland National Capital Park and Planning Commission, and the Metropolitan Washington Council of Governments, told us of the quantities of waste now being produced in the area, and of the means used to dispose of that waste. He estimated the quantities of waste that will be produced in the future, and told us something of what will be required to dispose of that waste.

Dr. Middleton discussed the present relationship between solid waste disposal and air pollution. Mr. Binnewies and Mr. Eastman told us of the problems and accomplishments of the Federal Government in disposing of the solid wastes that arise as the result of Federal government activities in the metropolitan area.

Mr. William Vogely analyzed for us some of the aesthetic aspects of the problem of removing junk automobiles from the streets and vacant lots of the region and returning them to the channel of available natural resources.

Mr. Bosley, recognizing the fact that many persons have realized that solid wastes disposal is now becoming a regional problem, discussed some of the legislative measures that will be necessary to bring about a regional solution to the problem.

Mr. Vogely's remarks on the magnitude of the junk automobile problem were truly enlightening. It appears that the rate of recycling of scrap metal from junked automobiles just about equals the rate at which cars are being abandoned, so that a large backlog of abandoned vehicles continues to remain almost untouched. If the entire supply of junk automobiles is to be removed from our communities, Mr. Vogely recommended that automotive scrap be given competitive advantage over other types of scrap. I might add here that the Council of Governments has begun to seek a solution to

the problem in the metropolitan area, and has requested assistance from the Bureau of Mines in obtaining some of the specific information it must have if a sound policy is to be developed.

There is no question, however, that the major solid wastes disposal problem in the metropolitan area at present is the disposal of ordinary residential and commercial refuse. Refuse production for the entire region in 1965 was estimated at 1.3 million tons of incinerable refuse and 0.5 million tons of nonincinerable refuse. Mr. Bremser estimated that by the year 2000 the region would be producing 4.5 million tons of incinerable refuse and 1.6 million tons of nonincinerable refuse.

Nearly one half of that waste arises in the District of Columbia and much of that half comes from Federal installations. Mr. Eastman of the General Services Administration told us of the extensive problems, and of the monumental accomplishments, of his agency in dealing with the wastes collected from 55 million square feet of office space in 1,300 separate buildings. Wastes are segregated, and sold wherever possible. Ingenious solutions have been provided for the specialized problems presented by classified documents, fluorescent light tubes, and medical supplies, but much of the Federal solid wastes still find their way into the normal municipal solid waste disposal channels. These wastes include the nonsaleable wastes from the General Services Administration, along with the over 300,000 cans of trash which Mr. Binnewies reported were collected in the National Parks of the region last year.

Mr. Bremser described the present manner of the disposing of solid wastes within the region. Three methods are used for waste disposal: incineration, sanitary landfilling, and open burning.

Because of the lack of landfill space, Arlington County, Montgomery County, the City of Alexandria, and the District of Columbia use incineration to reduce the volume of solid waste prior to final disposal. Alexandria and the District of Columbia are also required to use open dumps to dispose of wastes which cannot be processed in their existing incinerators. Sanitary landfilling is employed in Prince Georges, Charles, Fairfax, and Prince William counties.

Because it has been necessary to rely on open burning to dispose of those wastes which exceed incineration and landfill capacity, the solid waste disposal problem has also become an air pollution problem.

Dr. Middleton noted that almost 900,000 tons of refuse are burned annually in municipal and private incinerators and that approximately

160,000 tons of refuse are burned in open dumps, mostly at the Kenilworth Dump. He declared that efforts to reduce air pollution from refuse disposal can at present most profitably be concentrated in the District of Columbia. He stated that closing of the archaic Kenilworth Dump is an essential first step. In order to close down the Kenilworth Dump as well as other open burning in the region, it is necessary that alternate facilities be provided.

Mr. Bremser stated unequivocally that land for landfills and incinerator plants is the greatest present and future refuse disposal need of the Washington metropolitan region. He noted that the region does not have the natural conditions which make sanitary landfilling the ideal refuse disposal method that it is for some other large urban areas. Geological and hydrological conditions in the northern half of the region are generally unfavorable for sanitary landfill; conditions are more favorable in the coastal plains region of the southern half of the area but that transportation costs to the region would be high.

Mr. Bremser concluded that more incinerator plants will be needed in the future.

Dr. Middleton, on the contrary, expressed the belief that the best solution to the problem is to stop all burning of refuse. However, he recognized that the Washington area must eventually run out of suitable space for landfilling. In view of this, he suggested that incinerators in each building be dispensed with. He suggested that if wastes must be burned they should be burned in modern, well-operated municipal incinerators equipped with the best available air pollution control devices. Both Mr. Bremser and Dr. Middleton agreed that effective solution of the solid waste problem, accompanied by the elimination of air pollution, will require extensive cooperation among the individual jurisdictions concerned.

Mr. Bosley described some of the mechanisms by which such cooperation could be established. He noted that the District of Columbia had already requested the Council of Governments to investigate a means of establishing a regional solid waste disposal program. As a result he had determined that, as an interim mechanism, it would be possible to create a nonprofit corporation to undertake the disposal of solid wastes. However, such a corporation would have neither the power of eminent domain nor the ability to obtain long-range financing. As a result, it could not engage in long-term landfill or incinerator operations.

An alternative to the nonprofit corporation would be the establishment of a metropolitan authority under interstate compact. Mr. Bosley expressed